

Data Sheet

DESCRIPTION: ThermalGuard OC.5X is a fast set, open-cell, Class I fire-rated, Appendix X compliant, 100% water-blown spray polyurethane foam (SPF) insulation system designed to reduce energy consumption in residential and commercial structures up to 50% by insulating and air sealing the thermal envelope in a single step. ThermalGuard OC.5X is applied as a liquid and then expands over 100x in seconds to fill and seal building cavities of any shape or size. It exhibits superior thermal insulation, air-barrier, and sound attenuation properties compared to conventional insulation materials and can be used in attics and crawlspaces without prescriptive ignition barrier, thermal barrier or intumescent coating. Once fully cured ThermalGuard OC.5X remains soft and flexible allowing for movement of the substrate or building over time while maintaining proper insulation and air sealing of the building envelope.

TYPICAL USES:

- Insulation foam for walls, ceilings, roof decks, crawlspaces
- Residential, commercial and industrial building insulation

FEATURES & BENEFITS:

- Class I fire rated
- ICC-ES AC377 Appendix X compliant
- Exhibits superior thermal insulation, air-barrier and sound attenuation properties compared to conventional insulation materials
- Meets/exceeds minimum building code requirements for fire safety
- No ozone depleting substances, VOCs, HFCs and is PBDE-free
- Low odor during application and produces no toxic vapors after application
- Seals, insulates and minimizes uncontrolled air movement into a building envelope
- Reduces energy consumption from heating and cooling

CHEMICAL PROPERTIES:	Test	Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-1475	1.23	1.21
Viscosity (cps)	ASTM D-2196	200 – 250	250 – 500
Mix Ratio, Parts per Volume		1	1
Cream Time @ 25 °C (77 °F)		2.5 – 5.0 seconds	
Rise Time @ 25 °C (77 °F)		8.0 – 15.0 seconds	
Shelf Life - Unopened Containers		6 months	6 months

TYPICAL PHYSICAL PROPERTIES:	Test	Result
Density (nominal):	ASTM D-1622	0.5 lb/ft ³ (8 kg/m ³)
Tensile Strength (psi)	ASTM D-1623	5.2
Compressive Strength (psi)	ASTM D-1621	0.6
Open-Cell Content (%)	ASTM D-2856	98
Vapor Permeability* (perm @ 5.5" (139.7 mm)) (Class III Vapor Retarder)	ASTM E-96	4.2
Air Leakage** (L/s/m ² @ 75 Pa @ 3.5")	ASTM E-283	0.003
Dimensional Stability (%)	ASTM D-2126	<1Δ
Acoustical Rating (STC):		55±4
Fire Rating:	ASTM E-84	Class I
Flame Spread Index		≤25
Smoke Development Index		≤450
Ignition Barrier:	NFPA 286	
ICC-ES AC377 Appendix X		Pass
R-Value: @ 1"	ASTM C-518	3.8/inch

PROCESS TEMPERATURE: ThermalGuard OC.5X must be spray-applied using approved equipment. The system settings required to achieve quality spray foam application will vary depending on environmental and substrate conditions. The following recommended parameters will help ensure optimum foam quality.

(continued)

THERMALGUARD OC.5X (continued):

Iso (A) & Resin (B) Components	Processing Pressure	Substrate Temperature
115 – 150°F (37.8 – 66°C)	900 – 1500 psi	>30°F (-1°C)**

**Winter-grade formulas are recommended and may be required below 45°F (7°C)

PREPARATION: It is recommended to precondition material to 70 – 80°F prior to application. Material may thicken at lower temperatures which can cavitate pumps.

Mix B-side (resin) for 30 minutes prior to application, using an electric driven or pneumatic drum mixer in the center bung of drum. Ensure that the mixer is securely attached. Folding blade arrangement: 6” blade top, 6” blade middle, 8” blade bottom is recommended. Continually mix B-side (resin) while applying material.

APPLICATION INSTRUCTIONS: ThermalGuard OC.5X is installed by independent SPF contractors. It is recommended that building owners verify that the SPF insulation contractor maintains proper credentials, insurance, and licenses and is properly trained to safely install SPF insulation products. It is the applicator's responsibility to test lift thickness for a particular application prior to commencing installation to ensure that the product can be installed safely, at the desired thickness, without the risk of charring or fire. To apply, use 1:1 ratio proportioning system that can achieve the specified temperature and pressure requirements.

ThermalGuard OC.5X demonstrates excellent adhesion to various substrates when installed according to manufacturer specifications. ThermalGuard OC.5X should not be used for exterior applications, as UV light will rapidly degrade foam. It should not be used where foam will stay submerged in water or below grade where back-fill material may crush or damage the product. Do not use near high heat or open flame.

Federal, state or local building codes may require ThermalGuard OC.5X to be covered with an approved 15-minute thermal barrier. Installation must comply with all applicable building codes. Consult your local building code official for approvals and recommendations.

SUBSTRATES: ThermalGuard OC.5X is chemically and physically compatible with all common building materials including electrical wiring, wood, metal, concrete, plastic (PVC), copper, vinyl, and glass.

HOW SUPPLIED: Net weight per set is 990 pounds (453.6 kg). A set of ThermalGuard OC.5X consists of one (1) 55 gallon (208 L) drum of 'A' component and one (1) 55 gallon (208 L) drum of 'B' component. Part # TGO5X SET, Component A: FFPF-ISO A-D / Component B: TGO5X B-D.

STORAGE: ThermalGuard OC.5X should be stored between 60 – 90° F (16 – 32° C) out of direct sunlight. Do not allow material to freeze.

SAFETY PRECAUTIONS: Health Considerations - Consult the Rhino Linings® Safety Data Sheets (SDS)

This chemical system requires the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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Read This Before You Buy

What You Should Know About R-values

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy.

There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, the amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel.

To get the marked R-value, it is essential that this insulation be installed properly.

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